Paragraph at page 3, lines 18-28:

A2

A signal or beam deriving from a conductor drops through an optical element and is transmitted/reflected, converged/diverged and/or changes direction, whether or not dependent on the wavelength. In this case the optical parameters of the incident electromagnetic radiation (such as angle of incidence, convergence, divergence, wavelength distribution and intensity) and the geometrical parameters (such as structure, layer thickness distribution, orientation and position) and material parameters (such as refractive indices and transmission coefficient) of the optical element concerned, together determine the optical parameters of the transmitted electromagnetic radiation (such as angle of incidence, convergence, divergence, wavelength distribution and intensity). The optical parameters of the transmitted signal or beam are adjustable by means of the orientation or position of the optical element. Thus a number of signals or beams can be switched in parallel.

Two Paragraphs at page 4, line 28 to page 5, line 11:

A3

MEMS allows the electrical control of the orientation of micromechanical elements, such as those illustrated in FIGS. 1 and 2. Two forms of electrical control elements are piezoelectric and electrostatic elements. A piezoelectric control configuration is illustrated in the cross-sectional view of FIG. 3. A piezoelectric element 40 including a thin layer 42 of piezoelectric material such as strontium titanate is formed between two electrode layer 44, 46 formed on a substrate 48 constituting the mechanical element. Application of a voltage across the electrode layers 44, 46 causes the piezoelectric layer 42 to deform, thereby affecting the orientation or position of the mechanical element 48 also supporting the optical element used for switching. An electrostatic control configuration is illustrated in the cross-sectional view of FIG. 4. Typically a first electrode 50 is formed on a suspended mechanical element 52 and a second electrode 54 is formed on a base mechanical element 56 with a vertical gap 58 formed between the two electrodes 50, 54. Typically the suspended mechanical element 52 can be rotated, such as in the gimbaled structure of FIG. 2, or be deformed as in a cantilever having an optical

element on its free end. Applying an electrical bias across the two electrodes 50, 54 creates an electrostatic attraction between the two mechanical elements 52, 56, thereby attracting them together assuming some flexibility has been imparted to the suspended mechanical element 52. In the 2-dimensional arrangement of FIG. 2, separate electrodes 54 may be positioned beneath selectively biased electrode portions of the frame 32 and the central plate 34 to allow independently addressable electrostatic control of their angular orientations about two perpendicular axes generally within the plane of the wafer and thus providing independent adjustment of the plural elements. Typically, the two mechanical elements 50, 56 are formed from separate silicon wafers bonded together. The pairs of two opposed electrodes for the plural pixels of a 1- or 2-dimensional arrangement are separately controllable to effect the separate angular control of multiple optical elements. Similarly, plural piezoelectric elements of FIG. 3 may be formed in 1- or 2-dimensional arrangements for separately controllable elements.

Replace the claims with:

1. (Amended) An assembly of a plurality of individually adjustable optical switching devices formed from a substrate having a principal surface and distributed two dimensionally in said principal surface, each of said optical devices comprising:

a deformable mechanical element extending in a direction parallel to said principal surface;

an optical element supported on said mechanical element and providing at least partial transmission therethrough of light incident thereupon into any of plurality of directions extending closer to a normal to said principal surface than parallel to said principal surface; and

an electrical control element controllably deforming said mechanical element and thereby selecting one of said plurality of directions.

2. The device of Claim 1, wherein said mechanical element includes a plate supporting said optical element and being supported on two torsion bars extending substantially parallel to